VOLUME III
NUMBER 3
FALL 1998

THE LANGLEY DAAC
newsletter

Business Africa

Solar Solutions for Remote Regions

Business

Africa:

International

Trade Initiative

NASA Langley DAAC staff members participated in an international trade initiative in August sponsored by the State of Indiana, the Department of Commerce, and the U.S. Small Business Administration. Entitled "Business Africa," the goal was to begin satisfying the objectives of the African Growth and Opportunity Act. The African Growth and Opportunity Act is the first serious attempt to provide a general road map for expanding economic engagement and involvement in Africa through enhanced trade and investment. It seeks to establish a more mature partnership with those countries in Africa undertaking serious economic and political reforms.

The Business Africa Committee invited the DAAC to participate as information specialists at the symposium and exhibition. This was the DAAC's first outreach project to focus on a small, targeted audience in order to highlight a specific data set. This new type of adventure accents data particular to a new community of policy makers, industry and commercial sectors.

The Langley DAAC exhibit, "Solar Solutions for Remote Regions" used the Surface Solar Energy (SSE) data set archived at the DAAC to illustrate the feasibility of solar collections in remote regions. This satellite-derived data set is formulated for the Renewable Energy Industry for the application of solar energy technologies and is very useful in a wide range of energy technologies and agricultural applications. The exhibit displayed Java-enabled animated images of the SSE data for Average Total Horizontal-Surface Down (average total energy) and Average Daylight Cloud Fraction during the time period April 1985 to December 1988.

The DAAC exhibit also outlined efforts in providing NASA science data to help enhance life in rural areas of developing countries that are struggling with poor sanitation, inadequate energy supplies and heavy reliance on human labor. A brochure and other handouts were given to various dignitaries from several African nations and to U.S. politicians and business leaders attending the Business Africa Symposium.

Ambassadors and their diplomatic staffs from the Republics of Guinea, Tanzania, Zimbabwe, Mozambique, and Botswana as well as South Africa asked intensive questions about the NASA SSE data and its availability, and requested a DOE contact for further assistance on hardware issues. Address and telephone information for a contact at the DOE National Renewable Energy Laboratory were provided to enable further assistance on their individual project needs.

The Business Africa Committee has distributed over 45,000 marketing brochures, and the event has been featured in national publications. For more information, contact the User and Data Services office at the DAAC.

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CERES

ERBE-like

Products

Available

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Posters

Submitted

for AGU

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CERES "ERBE-like" Products Available

The CERES TRMM (Tropical Rainfall Measuring Mission) "ERBE-like" products have been approved by the CERES Science Team for general release and are expected to be available in October 1998. These products are designed to preserve historical continuity with earlier Earth Radiation Budget Experiment (ERBE) data. In addition to processing the CERES data through the advanced CERES algorithms, the data are also processed through the same ERBE algorithms and Angular Distribution Models (ADMs) used to produce the 5-year ERBE data record. The resulting "ERBE-like" data sets are the daily ES8 and the monthly ES4 and ES9 products. At initial release, approximately eight months of data covering December 27, 1997 through August 31, 1998, will be available through the Langley DAAC (http://eosweb.larc.nasa.gov).

The ES8 product contains the "ERBE-like" instantaneous measured radiances and resulting fluxes at the top of the atmosphere (TOA). Each ES8 product covers a 24-hour period and contains shortwave and longwave radiances and fluxes as well as radiances (but not fluxes) for an 8–12 micron window channel that replaced the ERBE longwave channel. The ES8 data does contain some differences from the corresponding ERBE data. The resolution at nadir has increased from about 40 km on ERBE to about 10 km on CERES and the data rate has tripled. As a result, the scene identification algorithm is identifying more clear sky scenes for CERES. ES8 validation studies have shown that the ES8 uncertainties are at the 1% level.

The ES9 product contains the "ERBE-like" temporally and spatially averaged shortwave and longwave TOA fluxes. The CERES instantaneous TOA fluxes from the ES8 have been averaged on the ERBE 2.5 degree grid. Temporal interpolation algorithms have been used to produce daily, monthly-hourly, and monthly mean fluxes from the instantaneous gridded data. The ES9 contains both the temporally averaged and instantaneous gridded data for each 2.5 degree region observed during a month.

The ES-4 product contains the "ERBE-like" regional, zonal, and global averages. The 2.5 degree regional daily, monthly-hourly, and monthly averages from the ES9 have been averaged spatially to 2.5, 5, and 10 degree regions, to 2.5, 5 and 10 degree latitude zones, and the globe. Each product covers a one month period.

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Posters Submitted for Fall AGU Meeting

The Langley DAAC has submitted three posters for the Fall AGU Meeting being held in San Francisco December 6–10.

The first poster will be presented jointly by the CERES team and the DAAC, and will demonstrate a visualization and analysis tool, view_hdf, developed by the CERES team for use with their archival data products stored in Hierarchial Data Format (HDF). The view_hdf tool is written in Interactive Data Language (IDL) to provide a graphical user interface for manipulating data.

The poster will present the features of view_hdf, including selecting and subsetting variables from either Science Data Set or Vdata structures in an HDF file, rendering of two- and three-dimensional graphics, including plots of geolocated data onto various world map projections, and generating simple statistics. Plots can be saved in Postscript, encapsulated PostScript or GIF, or can be sent directly to a printer. Filtered subsets and statistical results can be written to a file in ASCII format for use in other analysis programs.

Although developed mainly for the CERES project, this tool may be of more general use for other data sets written in HDF. The tool should be portable to any platform which supports IDL, the HDF libraries, and a C compiler.

The second poster will present the latest features of the Langley Tropical Rainfall Measurement Mission (TRMM) Information System (LaTIS). LaTIS has been implemented to ingest the Level 0 instrument and ancillary data from the CERES instrument, produce and archive the data products, provide a WWW interface by which users can search and order holdings, subset the archived products spatially and temporally, and to allow for standing orders of future products. The details of LaTIS, including the ordering interface, subsetting of data products, and available data tools, will be presented.

At the AGU special session on education, the DAAC will present a poster detailing the set of ERBE trading cards which focuses on the Earth's radiation budget (see the Spring 1998 edition of the DAAC Newsletter). This poster session will feature the web site which augments the trading cards with on-line activities and lesson plans developed by teachers and scientists at Langley.

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New Data

Available

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FIRE.ACE

Update

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LASE_SGP97

The Lidar Atmospheric Sensing Experiment (LASE) airborne Differential Absorption Lidar (DIAL) participated in the Southern Great Plains (SGP97) field experiment in June–July 1997 in Oklahoma. SGP97 is a NASA EOS Interdisciplinary Science Investigation to validate soil moisture retrieval algorithms. LASE was deployed on the NASA P3B aircraft, making aerosol and water vapor measurements to aid in convective boundary layer studies.

TARFOX_LASE

The LASE DIAL instrument made measurements of aerosols and water vapor during nine flights on the NASA ER-2 in support of the Tropospheric Aerosol Radiative Forcing Observational eXperiment (TARFOX). TARFOX was conducted July 10–31, 1996, to characterize the chemical, physical, and optical properties of aerosols carried over the Western Atlantic Ocean from the U.S.

SCAR_B_AERONET

AERONET (AErosol RObotic NETwork) is an optical ground based aerosol monitoring network supported by NASA's Earth Observing System and expanded by federation with many non-NASA institutions. The AERONET data uses a spectro-radiometer to provide measurements of near real-time observations of aerosol spectral optical depths, aerosol size distributions, and precipitable water in diverse aerosol regimes. The data set covers August 1995 through September 1995 at various sites in Brazil. The individual data files cover all or some portion of this time span.

New Data Available from the DAAC

DATA SET NAME	NO. OF GRANULES	VOLUME (MB)
LASE_SGP97	*14*	*53.3*
TARFOX_LASE	*18*	*105.3*
SCAR_B_AERONET	*10*	*.59*
ISCCP-D1	*306*	*3366.0*
ISCCP-D2	*10*	*80.0*

ACCESSING DATA:

The Langley DAAC provides multiple interfaces to access its data holdings. The graphical and character user interfaces allow users to search and order data. The web interfaces allow direct access to some data holdings for immediate downloading or placing media orders, for searching the data holdings and downloading electronically available holdings, and for ordering prepackaged CD-ROMs and videocassettes. All of these methods are easily accessible from the Langley DAAC web site at:

http://eosweb.larc.nasa.gov

PUBLICATION ACKNOWLEDGMENT:

The requested form of acknowledgment for any publication in which Langley DAAC data are used is: "These data were obtained from the NASA Earth Observing System Data and Information System, Distributed Active Archive Center at the Langley Research Center." We request two reprints of any published papers or reports which cite the use of our distributed data. And to assist us in providing the best service to the scientific community, we also request notification if the data are transmitted to other researchers.

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FIRE.ACE Update

The second phase of the FIRE.ACE campaign has completed. The NCAR C-130 airplane, the "Des Groseilliers" ship, and surface sensors at Barrow continued taking measurements from July 8th through July 29th in support of the FIRE Arctic Cloud Experiment.

The NCAR C-130 airplane completed 8 flights during this phase, although 10 flights were planned. On the return flight during the early part of the phase, the C-130 engine malfunctioned and the engine had to be replaced. The "Des Groseillier" ship had drifted farther North than anticipated, and weather situations were more complex to predict. However, exciting data were collected in spite of these difficulties. The clouds observed during this phase were very representative of the global Arctic; and the SHEBA data, when combined with previous data sets in the Beaufort Sea should give a good overall picture of Arctic clouds.

Flight mission summaries, ship reports, satellite and model data from both the spring and summer phases of the campaign are available on the DAAC's FIRE.ACE web site at http://eosweb.larc.nasa.gov/

The FIRE.ACE web site also contains information for the data products. The Langley DAAC has received FIRE.ACE ER2 MAS data for archive and distribution to the world, and the DAAC is currently inspecting and processing the data. Announcements will be posted as soon as the data become available.

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The Langley DAAC Newsletter is a quarterly publication of the Langley Distributed Active Archive Center, NASA Langley Research Center, Hampton, VA 23681-2199. Contributions, comments, or questions are welcomed and may be submitted to the Langley DAAC User and Data Services office by phone at (757) 864-8656, by FAX at (757) 864-8807, or via e-mail at userserv@eosdis.larc.nasa.gov.

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The Langley DAAC Newsletter is now available on-line at
http://eosweb.larc.nasa.gov/
You will need a PDF reader such as Adobe Acrobat to open and view the Newsletter.

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Upcoming Events:

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Fall AGU Meeting

Dec 6–10

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MISR Science Team Meeting
Dec. 14–16

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In This Issue

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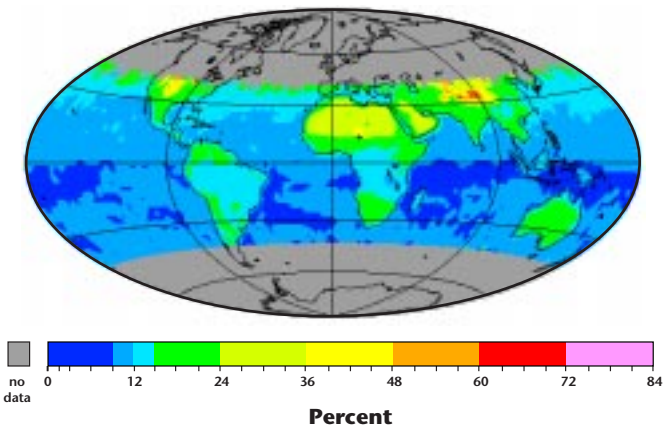
CERES "ERBE-like" Products



ES-4 Clear-sky Albedo from CERES TRMM Processing. January 1998

The CERES "ERBE-like" data sets for the daily ES8 and the monthly ES4 and ES9 products will be available from the Langley DAAC in October.
(see article on page 2)

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Space Administration

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